4. Data Management

The Data Management option contains programs that allow you to edit and manage the files that are produced by many PCGEMS programs. In addition, there are file transformation programs that allow you to transform an ASCII file (all PCGEMS output files are in this format) to formats accepted by commercial software such as LOTUS 1-2-3 and dBASE III. The Census Program allows you to extract and filter data (e.g., population) from the Census Block Group and Block datasets.

4.1 Selecting a Data Management Program.

When you select this option, the menu shown in Figure 4-1 appears.

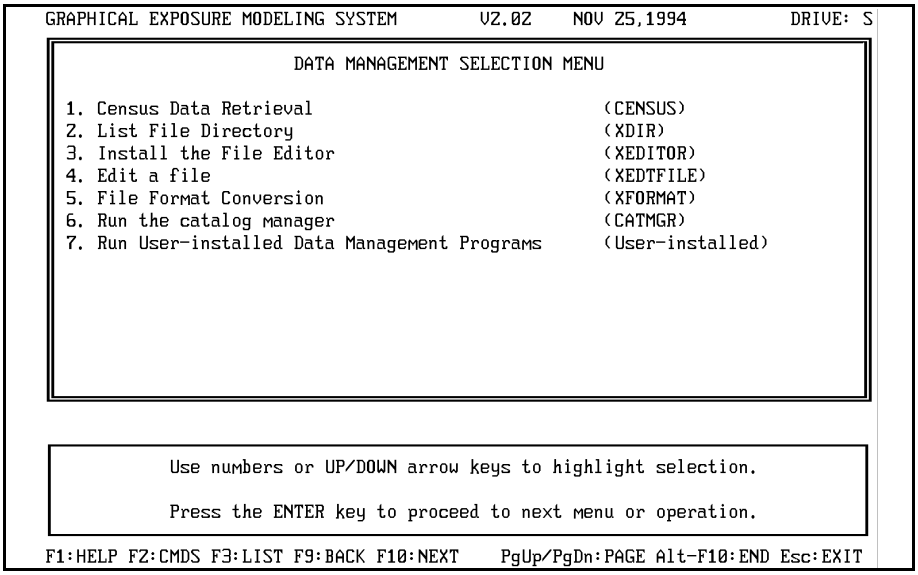


Figure 4-1. Data Management Selection Menu

To select any option, position your cursor over the item and press the ENTER key. The programs available in this menu are explained in greater detail in the subsections below.

4.2 Census Data Retrieval Program (CENSUS)

This program allows you to extract data such as the population and housing unit information for a specific geographic area in the United States from the Census Population Block Group and Block datasets. To specify the geographic area for which you wish to retrieve data, you may use a variety of geographic location identifiers such as zip code, latitude and longitude, and state FIPs codes.

To use this option, you must have a copy of the Census Population Block Group and Block datasets and must have specified a path to the dataset when you created the PCGEMS configuration file. If you did not set up a path in this way, you will be prompted for the path to the dataset each time you use this program. See Subsection 7.2 if you wish to insert a path to the Dataset into the configuration file.

You can access the 1990 Census population data either at the Block Group Level or the Block Level. After this selection is made, the menu shown below in Figure 4-2 appears. The three options are described in the following paragraphs.

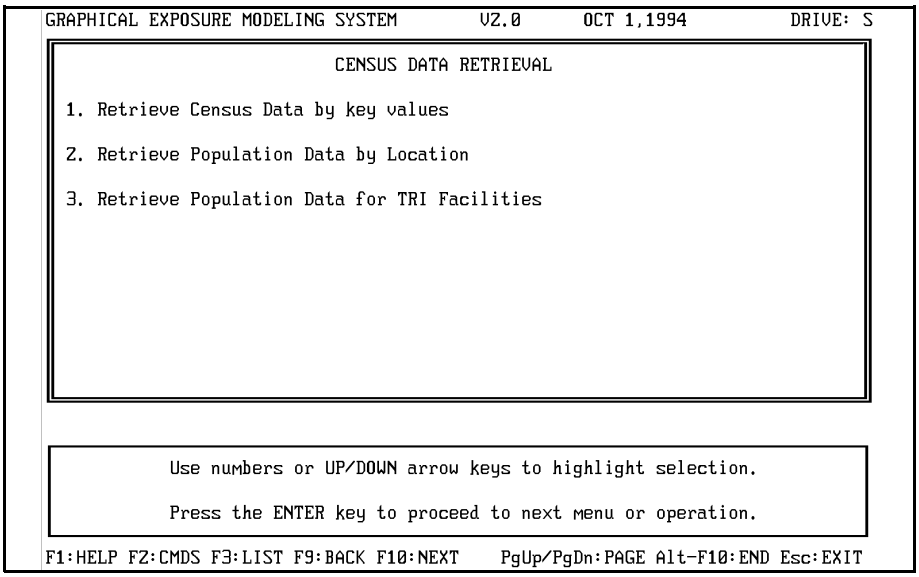


Figure 4-2. Census Data Retrieval Menu

The first option allows you to extract data by geographic or census area variables which you select. These variables are called key variables and by entering a range or a specific value for these variables, you ensure that only data that lies within the geographic or census area that you define will be extracted. In essence, you will be creating a subset of the Block Group and Block datasets by selecting any number of key variables and entering data values for these key variables. This allows you to extract data by state code, place code or block group, and to obtain data other than population data, such as housing unit data.

The second option allows you to extract population data by location from the dataset. The population data extracted is restricted to an area defined by a central location (either Latitude/Longitude coordinates in decimal degrees, Latitude/Longitude coordinates in degrees, minutes and seconds, UTM coordinates, or zip code) and a user-specified distance from the center. All values must be entered by you. If the zip

code option is selected, the zipcode dataset (ZIPCODE.BIN) is required to use this option.

The third option allows you to extract population data from the PCGEMS Census data files. The population to be extracted is restricted to an area defined by the TRI facility location.

1. Retrieve Census Data by Key Values

When you select the first option, the menu shown in Figure 4-3 appears.

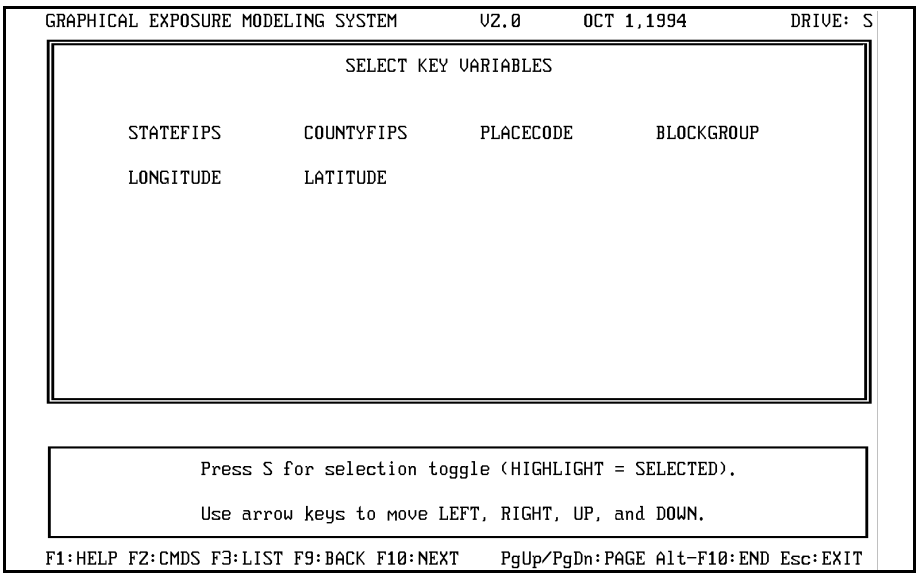


Figure 4-3. Selection of Key Variables Menu

The key variables listed in this menu are all unit codes that the Census Bureau uses to define geographical areas of varying sizes and population. The variables are explained below:

- *STATEFIPS*

  This is the two-digit Federal Information Processing Standards (FIPS) code that follows the alphabetic sequence of state names (including the District of Columbia). The codes are listed below:

01 Alabama
02 Alaska
04 Arizona
05 Arkansas
06 California
08 Colorado
09 Connecticut
10 Delaware
11 District of Columbia
12 Florida
13 Georgia
15 Hawaii
16 Idaho
17 Illinois
18 Indiana
19 Iowa
20 Kansas
21 Kentucky
22 Louisiana
23 Maine
24 Maryland
25 Massachusetts
26 Michigan
27 Minnesota
28 Mississippi
29 Missouri
30 Montana
31 Nebraska
32 Nevada
33 New Hampshire
34 New Jersey
35 New Mexico
36 New York
37 North Carolina
38 North Dakota
39 Ohio
40 Oklahoma
41 Oregon
42 Pennsylvania
44 Rhode Island
45 South Carolina
46 South Dakota
47 Tennessee
48 Texas
49 Utah
50 Vermont
51 Virginia
53 Washington
54 West Virginia
55 Wisconsin
56 Wyoming

- *COUNTYFIPS*

  This is the three-digit Federal Information Processing Standards (FIPS) code that uniquely identifies each county within a state. Counties are numbered in alphabetic sequence, with independent cities numbered separately at the end of the list. The County FIPS code is only unique within a state. Several states may have the same county codes. **If you select this variable, select the STATEFIPS variable also. See HELP ONLINE (F1 key) for a list of county FIPS codes.**

- *PLACECODE*

  This is a four-digit numeric code assigned by the Census Bureau to a place in alphabetic sequence within a state. A place is a concentration of population which may or may not have legally prescribed limits, powers, or functions. Most of the places identified in the 1990 Census are incorporated as cities, towns, villages, or boroughs. In addition, census designated places (also called "unincorporated places") are delineated for 1980 census tabulations. There are about 23,000 places recorded in the 1980 census. Places do not cross state boundaries.

- *BLOCKGROUP*

  The term is applied by the Census Bureau to a combination of numbered blocks that is a subdivision of a census tract or Block Numbering Area (BNA). A block (again as it is defined by the Census Bureau) is a rectangular piece of land, bounded by four streets (with some exceptions, such as cul-de-sacs). Census data are tabulated by blocks in all urbanized areas (UAs) and generally for some territory extending beyond the UA boundaries. A block is identified by a three-digit code which is unique within census tracts, or where census tracts do not exist, BNAs.

  Block groups are defined as that set of blocks sharing the same first digit within a census tract or BNA. You may also enter a range of block numbers for this variable instead of only a single digit. If you select this variable by itself, the program will search the entire dataset to extract all block groups with the same code. This will take a considerable amount of time.

- *LATITUDE*

  This is the angular distance north or south of the equator measured in decimal degrees along a meridian. Refer to any map or globe for the correct latitude and longitude (which must be entered in decimal degrees) for the geographical area for which you want data extracted.

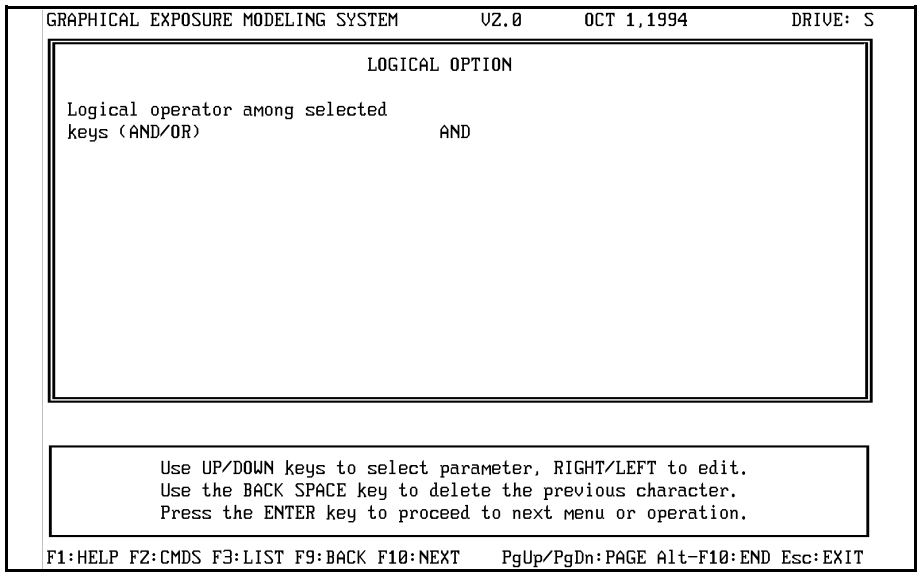
- *LONGITUDE*

  This is the angular distance measured in decimal degrees east or west of prime meridian at Greenwich, England to the point on the earth's surface for which the longitude is being measured. Enter the longitude in decimal degrees.

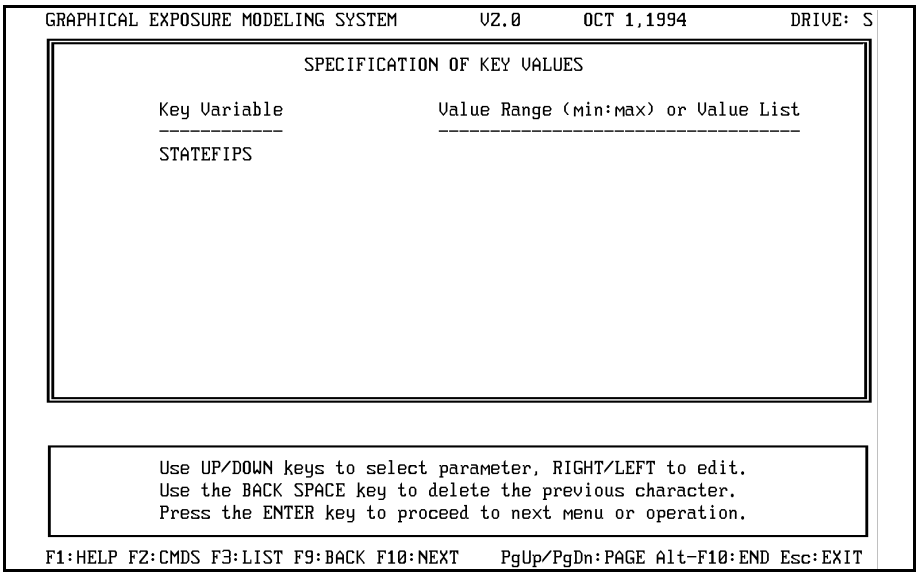
You must select at least one variable from the list of variables. To obtain the correct values for variables,such as PLACECODE, refer to the appropriate Census printout of the data values. To select a variable or variables, proceed to the specific variable and enter "S" from the keyboard. The selection will automatically be highlighted. You may select as many variables as you wish. Remember that you must enter a single value or range of values for all the variables that you select. If you select more than one variable, the menu shown below in Figure 4-4 appears.

Figure 4-4. Logical Option Selection Menu

The logical operator controls the extraction of data. The default logical operator is the Boolean operator "AND", which means that the extracted data must meet all the



criteria specified by the values that you enter for the key variables before it is extracted. The Boolean inclusive "OR" means that data meeting any of the criteria that you establish will be extracted. You thus control the scope of the data extraction.



The menu in Figure 4-5 appears after you have selected the logical operator.

Figure 4-5. Specification of Key Variable Values

Enter the value(s) for the key variable(s) that define the data you wish to retrieve. You may enter a single value or a range of values. There are two ways of entering a range of values. The first way is to enter a minimum and a maximum value separated by a colon (e.g. 4:20). The second way is to enter a minimum value only or a maximum value only along with the colon before or after the value. For example, values of 4 or more are represented as 4: or values of 20 or less are represented as :20). By entering only a minimum or maximum value, you are specifying that you want to extract all data that is less than or greater than the value entered (as the case may be). Keep in mind that you are defining a geographical area within which data from the Census Block Group and Block datasets are to be extracted. Try not to enter too broad a range for, the broader the range, the longer your PC will be tied up during the extraction process.

When you are through with this menu, the menu in Figure 4-6 appears.

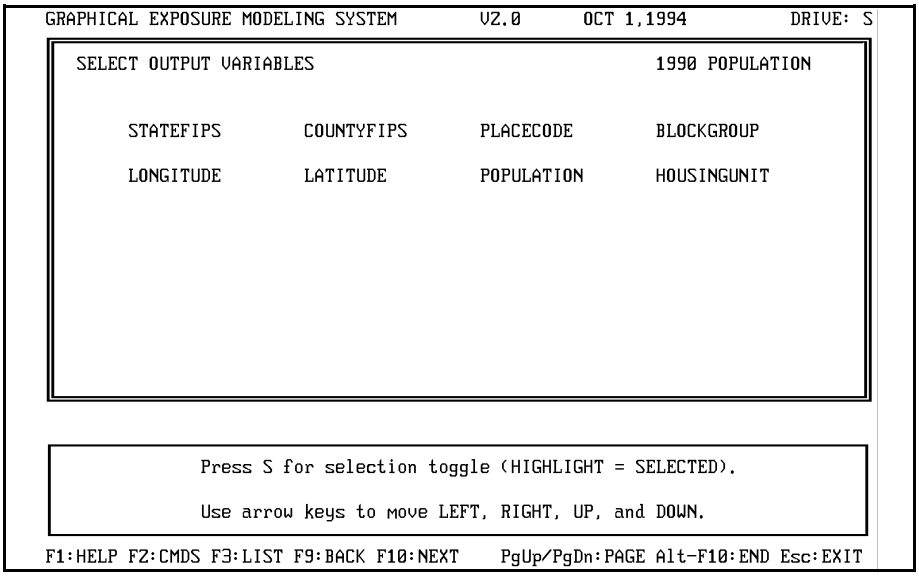


Figure 4-6. Selection of Output Variables Menu

This menu allows you to select the variables whose values you want to extract from the dataset using the criteria that you established through the key variables. If you wish to extract all the variables that are listed in this menu, press the ENTER key. If you wish to extract only a certain number of the variables, proceed to those variables that you want to extract and enter "S" from the keyboard. The selections that you make will automatically be highlighted. The variables shown in this menu are the same as the Key Variable menu, except for the POPULATION and HOUSINGUNIT variables. The POPULATION variable contains data on the population according to geographical area, while the HOUSINGUNIT variable contains the number of housing units by geographical area. Refer to the explanation following Figure 4-3 for definitions for the other variables. When you are through with this menu, the menu shown in Figure 4-7 appears.

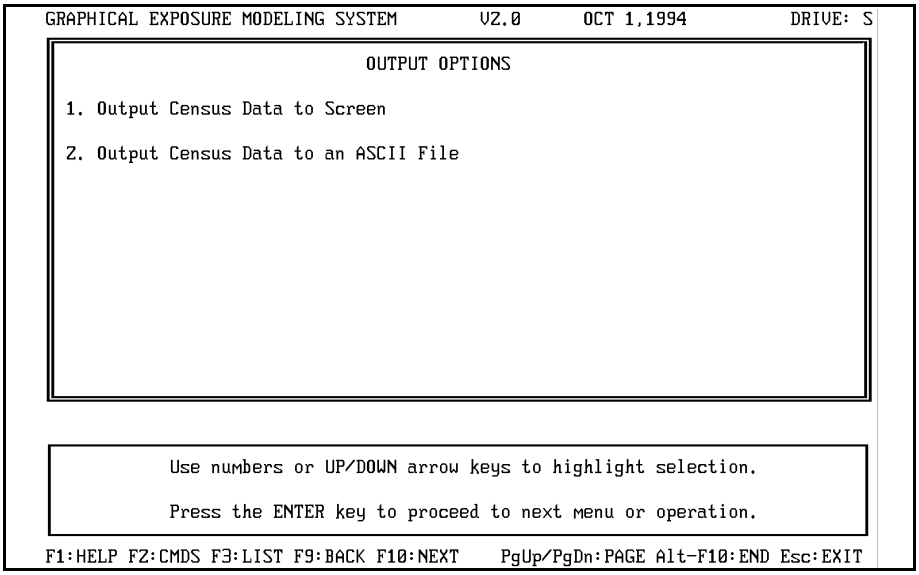


Figure 4-7. The Output Selection Menu

You may send the retrieved Census data from this session to two locations. You may send it to the PC screen, in which case the output will not be saved. You will not see the output if you chose to save it in a file. You may save the output in an American Standard Code for Information Interchange (ASCII) format file, which means that you may use the file in other commercial software that accept ASCII format. If you select ASCII, you will be required to enter a data field delimiter, such as a comma (,), a colon (:), or even a blank space (the default). The ASCII output file must be accessed separately through the output function key ("O") in the Catalog Manager.

The output formats ("Output Census Data to Screen" and "Output Census Data to an ASCII File") are similar to each other. When reviewing the output file, the first part of the file will be the title, followed by the data field description which gives you the variables shown on the screen or in the file, and their data position. For example, if

you selected STATEFIPS as one of your output variables, the data field would list the STATEFIPS variable at the beginning of the data field description (since it follows the same order as shown in the Select Output Variables Menu), followed by the data position, which would normally be "1:6", meaning that the first six spaces in the columns of data following the data field description are occupied by the STATEFIPS variable. This allows you to quickly identify the variables and the values by looking up their positions in the data field description.

If you elect to send the output to the PC screen, data field headings will be added to the top of each page. If you intend to save the output in an ASCII file, an additional menu will appear, asking for the file label. This file label is for later identification when the file is inserted in the PCGEMS catalog file, since the name for the output file is automatically generated by PCGEMS. The output file name consists of an abbreviation that will immediately identify the program ("Census Block Group and Block Datasets"), along with a number that is sequentially assigned according to the number of output files already generated by the program. The output file extension is ".ASC" to indicate an ASCII file.

When you have provided a file label, PCGEMS will look for the location of the Census Population Block Group and Block datasets in the data path in the PCGEMS configuration file that you created when you first entered PCGEMS. If PCGEMS cannot find the dataset after scanning all the locations that you have specified, it will prompt you for the file path. This menu is shown in Figure 4-8. The Census Population Block Group and Block datasets are organized by state and the disk files are titled according to the state. The program will ask for the path to the appropriate disk if it cannot find the dataset on the PCGEMS directory. An example of a filename that the program may ask for is "MD90B.DAT." The first part of the filename is the state abbreviation. You would thus look for the disk labeled "MARYLAND (MD)". If the area that you specify is sufficiently large that it encompasses several states, this menu will repeat according to the number of files required. **If you do not have the state that is asked for, you may skip over it by pressing ENTER.** If you chose to save the census data in a file, the output file is then inserted in the active catalog file.

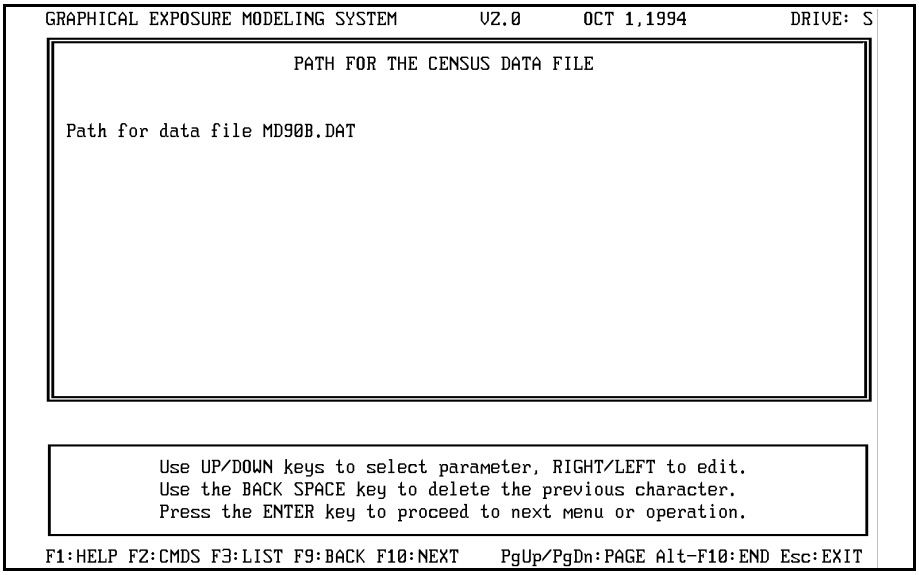


Figure 4-8. Block Group and Block datasets Path Entry Menu

2. Retrieve Population Data by Location

If you elect to retrieve population data by location, you will see the menu shown in Figure 4-9. To retrieve the population data, you can define an area by specifying either latitude/longitude, UTM coordinates, or zip code and the distance from the center. To use the zip code option, you must also have a copy of the Zipcode dataset and should have entered in the PCGEMS configuration file a path to the dataset.

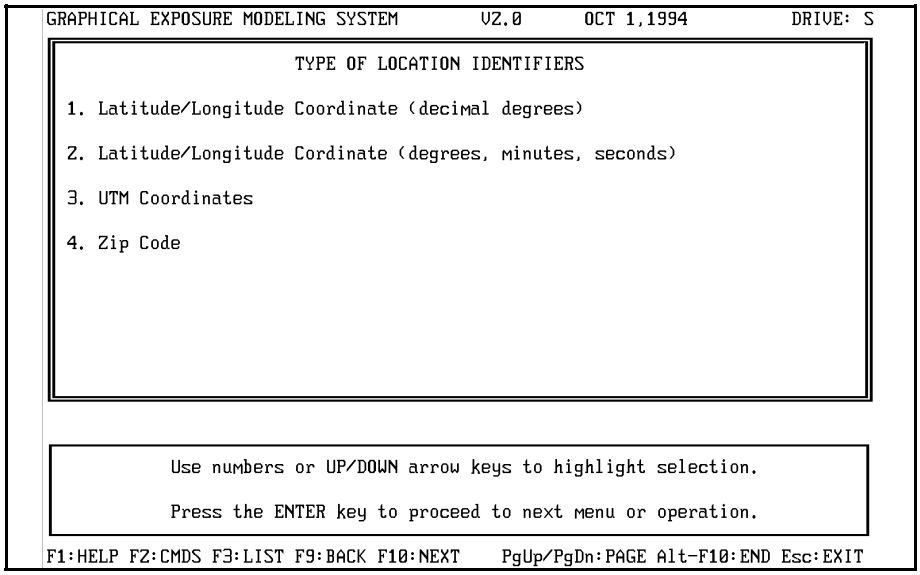


Figure 4-9. Location Entry Menu

Enter the central zip code. The ring count and sector count define a polar grid, while the retrieved Block Group and Block population data will be aggregated by the polar grid cell. The number of rings must be a positive integer. The number of pie-shaped sectors must be one of the following integers: 1, 2, 4, 8, 16, 32. All sectors will be evenly spaced, beginning from the northern axis. The fourth prompt appears only if the Zipcode dataset (this dataset is on the disk titled ZIPCODE.BIN) is not in the PCGEMS directory. A file path is either a disk drive name or a disk directory name. For example, "C:\GEO" is a valid file path if the Zipcode dataset can be found in directory "GEO" on disk C. See Subsection 7.2 if you want to put the path to the Zipcode dataset into your PCGEMS configuration file. The menu in Figure 4-10 appears when you press ENTER.

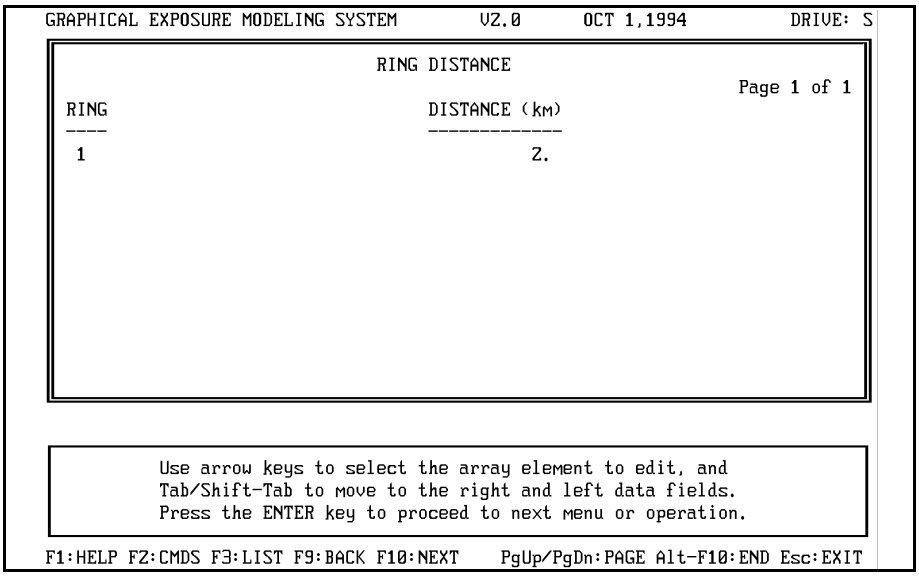


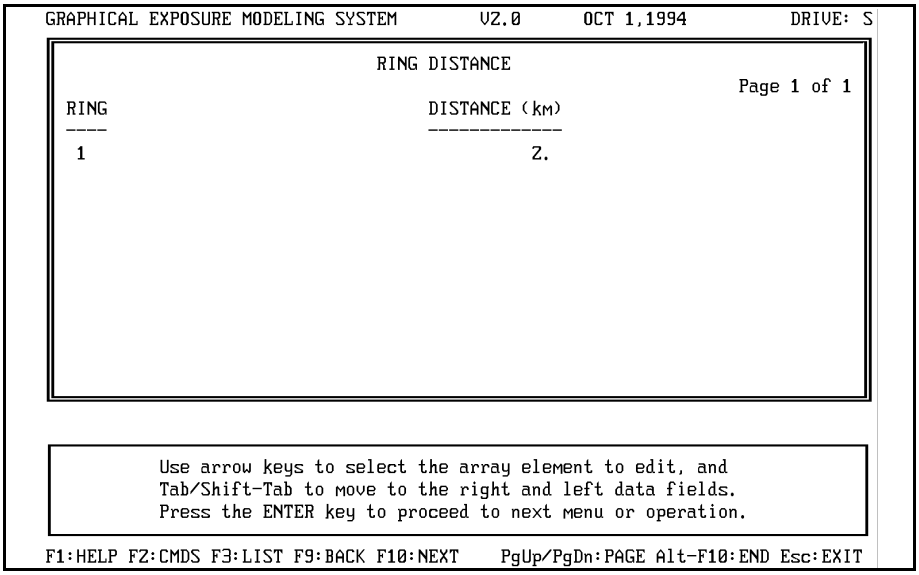
Figure 4-10. The Ring Distance Specification Menu

The ring distances need not be entered in ascending or descending order. They will automatically be sorted by the system for calculation. A valid ring distance is between 1 and 1000 kilometers. After you have entered all the distances required by this menu, press the ENTER key. This menu is then followed by the same Select Output Destination menu shown in Figure 4-6. You have three options in this menu. The options are explained fully in the previous subsection. Refer to it if you have any questions.

If the Block Group and Block datasets are not located in any of the data paths provided in the PCGEMS configuration file, a menu similar to that shown in Figure 4-8 appears. This menu identifies one of the specific Block Group and Block files required for the area you specified, and prompts you to enter the path to that file. There may be several files required for a retrieval, and you must have each file available in order to perform a complete retrieval. If, however, you do not have a specific data file, you may press Enter without entering a path. The program will

prompt you for the path for the next file needed for the retrieval.

3. Retrieve Population Data for TRI Facilities

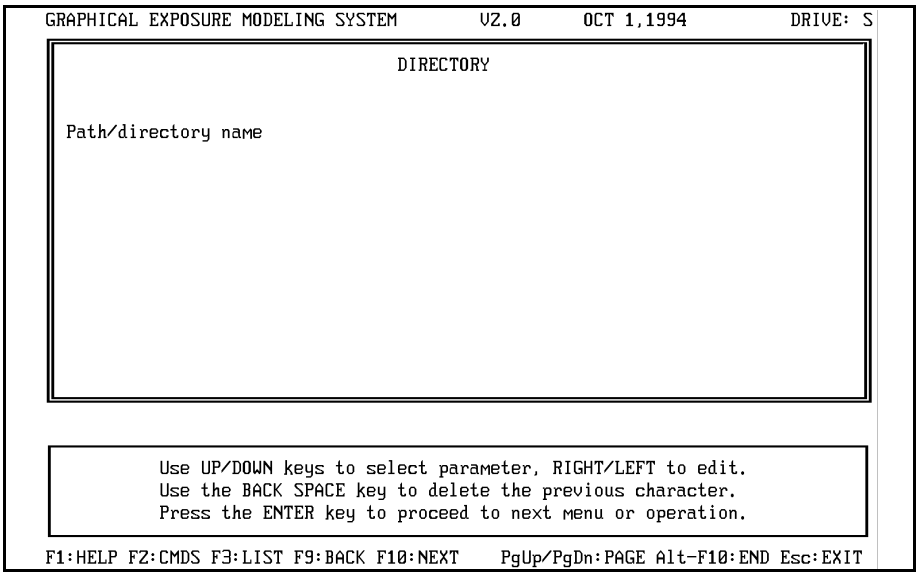


The menu in Figure 4-11 appears if you elect to extract the population data by TRI facilities.

Figure 4-11. TRI Facility Entry Menu

You can retrieve the census data by TRI facilities using three methods: Manual

input, ASCII file Input, and dBASE file input. If you choose the manual input, you



need to further define the type of location identifiers (e.g. Lat./Long.), number of facilities to be input, and facility information. If you choose the ASCII file input or the dBASE fiel input, you need to provide the file name. The menus following this one are exactly the same as the menus for the previous option. Refer to the previous subsection if you have any questions regarding any of the prompts or menus.

4.3 List File Directory (XDIR)

This option allows you to list the files on any directory or drive. The menu shown in Figure 4-12 appears when this option is selected.

Figure 4-12. Directory Nenu

The "path/directory" is the location of the directory that you want to scan. The path specification is of the form:

```
DEVICE:\PATHNAME\NAME.TYPE
```

DEVICE is a single character identifier (for instance, A for the first floppy disk, C for the first fixed disk, etc.) followed by a colon (:), PATHNAME is up to 63 characters of identifiers (up to eight characters each) surrounded by backslashes (\), and is often the name of a subdirectory, and NAME (which is only necessary if you want to list either a certain type of file, e.g. ".DAT" files, or a specific file) is an identifier of up to eight characters, with the TYPE as the extension identifier, if needed. For example, if you wanted to scan the PCGEMS directory, you would enter "C:\PCGEMS" here (The assumption is that you loaded PCGEMS on the first fixed disk directory. If this is not the case, enter the appropriate directory letter instead of C). When you have entered the path and directory name, you will see a listing of the files contained in the directory, including the time entered and file extension, if any. To return to the main menu, press ENTER after you have looked at the list.

4.4 Install the File Editor (XEDITOR)

You may install any file editor that you wish, provided that it has an execute command that will, when provided together with a file name, take you directly to that file. An example of this is the Norton Editor, whose execute command is "NE". If you append the file name to the "NE" command, you will go directly to the file itself. All file editors and wordprocessors with this capability may be installed under this option. The menu shown in Figure 4-13 appears when you select this option.

The "Enter the editor name" prompt requires that you enter the execute command. It is usually a shortened form of the editor name; for example, the execute command for the Norton Editor is "NE". The "Enter the path/directory" prompt requires the path that PCGEMS has to take to access the file. This path is separate from the program path in the PCGEMS configuration file. The path for the data editor should not be entered in the PCGEMS configuration file since the data editor is not a PCGEMS program. For example, if the file were on drive A, you would enter "A:\". When you have completed this menu, press the ENTER key. PCGEMS will keep the path file to this editor until you change it by entering a new editor name and path. In order to use the editor to edit a specific file, you must go to the Edit a File Program described in subsection 4.5 below.

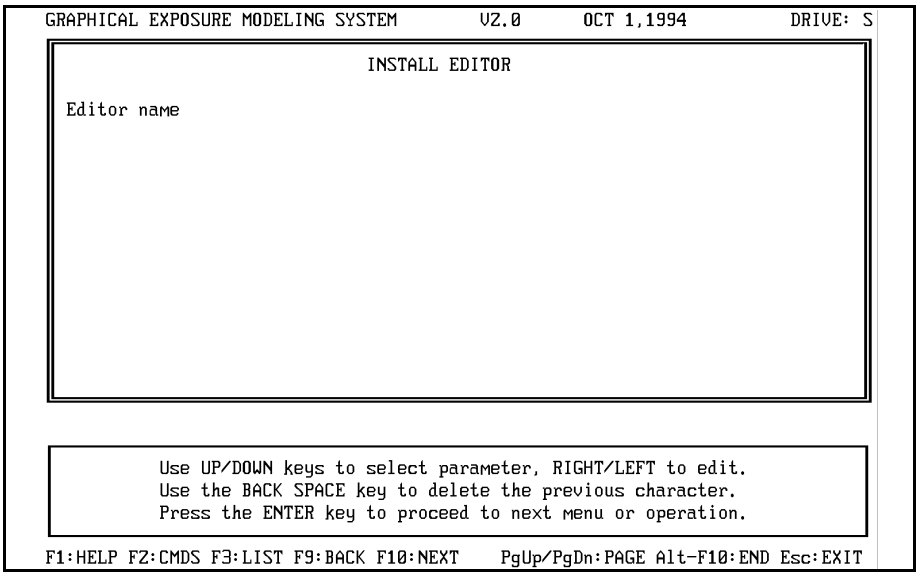


Figure 4-13. Install Data Editor Menu

4.5 Edit a File (XEDTFILE)

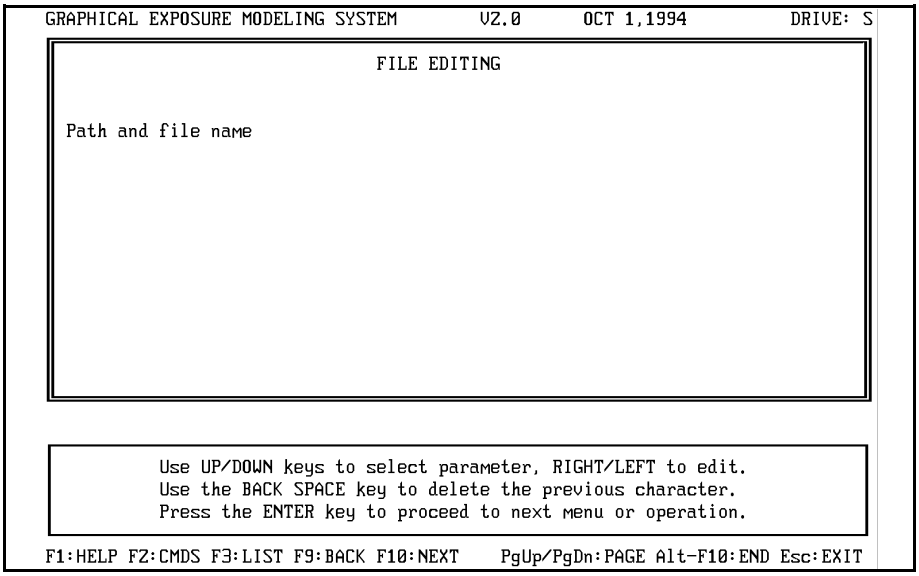
You may edit all PCGEMS files which are in ASCII format with a data editor. All PCGEMS ASCII files are identified as being in ASCII format in the catalog file. Examples of ASCII files are the output files created by the ISCLT2 program and the PCCHEM program.

You may select this option only after you have installed the file editor. This program, "Install the File Editor", is described in the preceding subsection. Selecting this option reveals the menu in Figure 4-14.

Enter the path (drive and directory location of the file) and the file name. When you enter a filename, PCGEMS will automatically use the execute command that you provided when you installed the editor. When you have completed this menu, PCGEMS will retrieve the file and you may begin editing.

If you do not have an editor that allows this process, you will see an error message advising you of this. To use an editor that needs something other than the execute command to run a file, install your editor under the Run User-installed Data Management Program, described in Subsection 4.8 of this chapter.

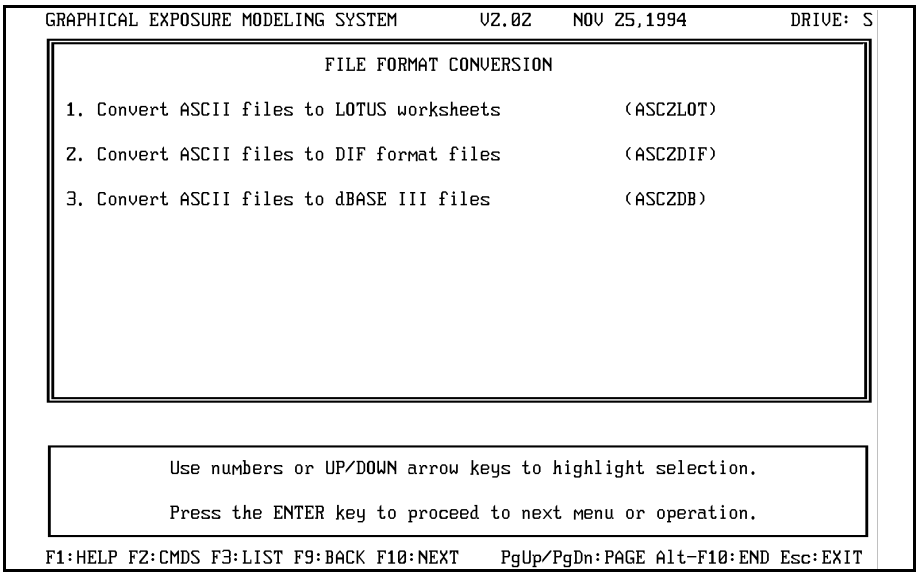
Figure 4-14. File Editing Menu



4.6 File Format Conversion (XFORMAT)

This option allows you to convert data files that are in American Standard Code for Information Interchange (ASCII) format into a variety of different formats. All of the output files created by the Environmental Modeling programs in PCGEMS are in ASCII format. Once converted, these data files may be used by a variety of other PC software, including LOTUS and dBASE III. In addition, ASCII files created outside the system may be converted into PCGEMS format binary files. To convert an ASCII file, you will need to know the structure of the ASCII file, how many records there are, the number of fields, the data type, and other input necessary for a data conversion. Use a data editor to verify this information before you select this option. The menu shown in Figure 4-15 appears when you choose this option.

Figure 4-15. File Format Conversion Navigational Menu



Choose the format that you want for your ASCII files by placing your cursor over the appropriate option and pressing the ENTER key. The conversion programs and the menus that appear for each program are shown and explained in the subsections below.

1. Convert ASCII files to LOTUS Worksheets (ASC2LOT)

When you select this option, you will see the menu shown in Figure 4-16.

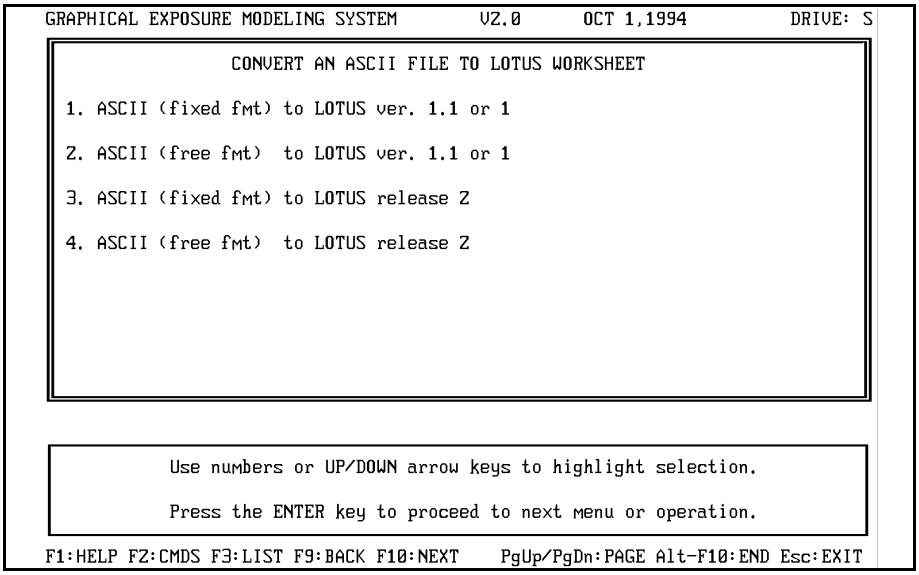


Figure 4-16. ASCII to LOTUS Conversion Menu

As you can see, ASCII files may be converted to three different versions of LOTUS. Select the version of LOTUS worksheet that you want, and the appropriate menu will appear. The menus that appear for the three versions are very similar and require almost the same input. Therefore, only two of the four options will be shown and explained: ASCII (fixed fmt.) to LOTUS ver. 1.1 or 1.1A, and ASCII (free fmt.) to LOTUS Release 2. Fixed format ASCII files have the data fields arranged in fixed columns, while the free format files are in a flowing sequence with a boundary marker called a delimiter (which may be any character from the keyboard, even a blank space) separating one data field from the other. NOTE: If the LOTUS version that you wish to use is not listed in the versions mentioned above, you may convert the ASCII files to DIF files, which can be used as input files for any LOTUS version.

Converting ASCII Fixed Format to LOTUS 1.1 or 1.1A

If you select the ASCII Fixed Format to LOTUS ver. 1.1 or 1.1A option, the menu in Figure 4-17 appears.

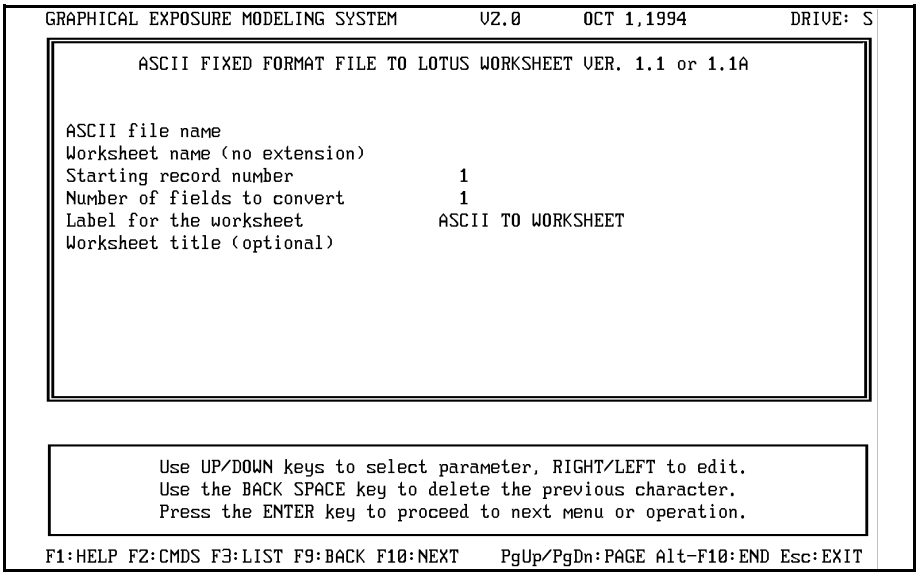


Figure 4-17. ASCII to Lotus Ver 1.1 or 1.1A Menu

Enter values for all the parameters listed. If you have already run this option and filled in a menu for another LOTUS worksheet, the values you entered for the parameters for that menu will appear as the default values here. You may enter a maximum of 52 fields. The menu in Figure 4-18 appears next.

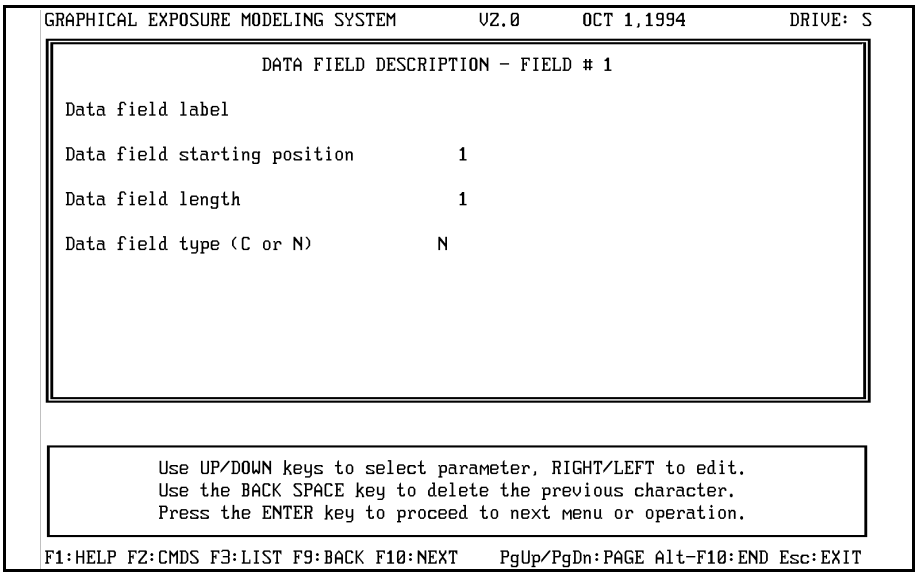


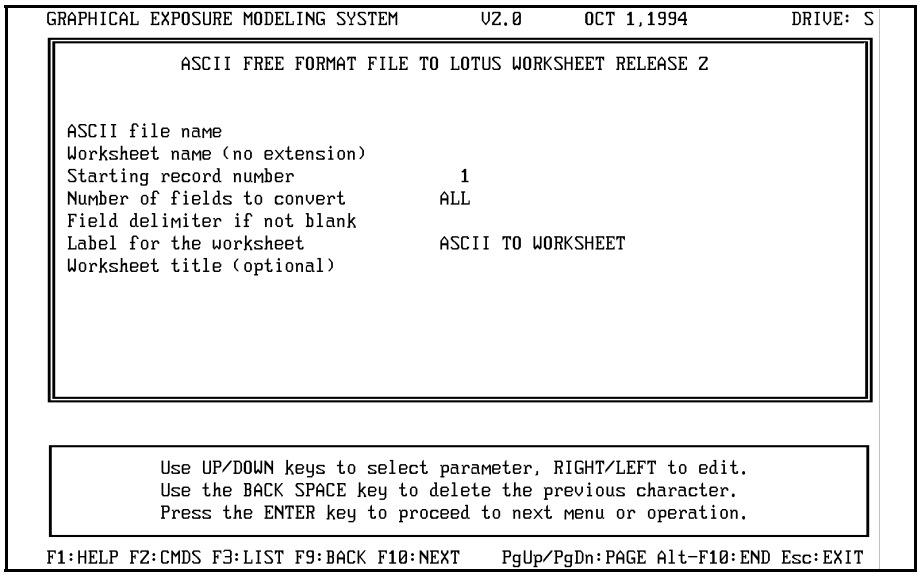
Figure 4-18. Data Description Field Menu (ASC2LOT)

You may enter a fictional data field name if the data fields in the file do not have header records containing the name of the fields. Enter the column number at which the data field begins for the data field starting position and the number of columns that the field occupies for the data field length. The data field type may be one of three types: integer (I), real numbers (R), or characters (C).

When you are through with this menu, press the ENTER key. The menu above will repeat according to the number of data fields you chose to convert in Figure 4-17. The menu title will indicate which field you are currently describing. When you have entered all the descriptions that are needed, the conversion begins. The file that is created is inserted in your active catalog file.

Converting ASCII Free Format to LOTUS 2

If you should select the ASCII (free fmt.) to LOTUS release 2, the menu in Figure



4-19 appears.

Figure 4-19. ASCII to LOTUS Release 2 Menu

Fill in all the parameters required by this menu. If you have any questions regarding any of the prompts, use the F1 or help key. The starting record number must be entered if you want the conversion to begin at any record other than the first one. If

you do not want to convert all the datafields, enter the number of datafields that you would like to convert (up to 52 datafields may be converted). When you are through with this screen, a data field description menu similar to the menu shown in Figure 4-18 appears. Refer to the preceding discussion for information on the prompts in that menu. This menu will repeat according to the number of datafields you wish to convert. The converted file is listed in the active catalog file. If you have not already created a catalog file in the default directory, PCGEMS will prompt you for a filename for the catalog into which the output file is to be inserted.

2. Convert ASCII Files to DIF Format Files (ASC2DIF)

DIF stands for Data Interchange Format. DIF is similar to ASCII but is far more sophisticated. The DIF format sorts tables of data and provides easy access to the data by any program that accepts DIF. Among the programs that use DIF are LOTUS 1-2-3, VisPlot, and VisiTrend/VisPlot.

To convert an ASCII file to DIF format, press the ENTER key when your cursor is over this option in the File Format Conversion Menu. The menu in Figure 4-20 appears.

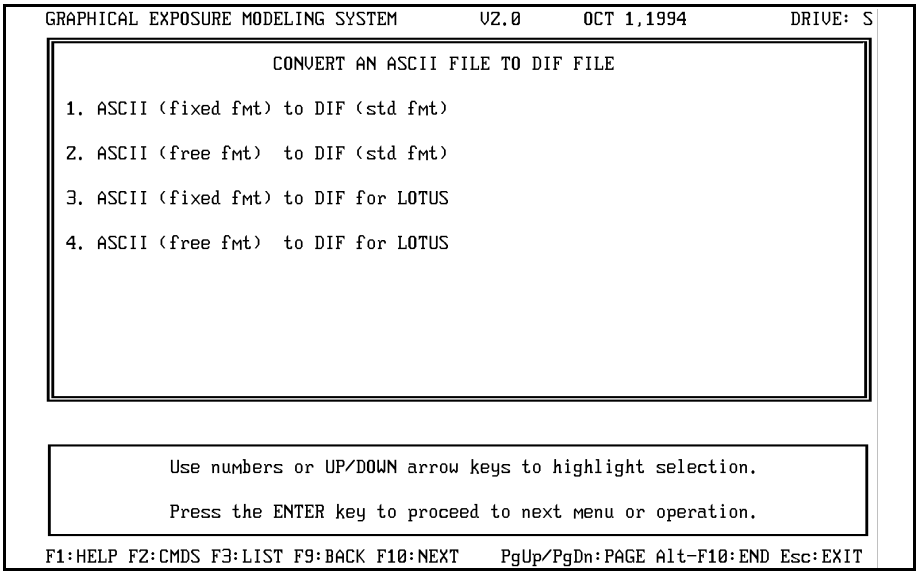


Figure 4-20. Convert an ASCII File to DIF File Menu

The menus that appear are identical to the ones shown in the previous subsection, except that they address DIF files and not LOTUS files. The last two options are included because DIF format files may be used in LOTUS versions other than versions 1.1 and 1.14 and release 2.0, which were addressed in the previous subsection. The same rules apply to these menus as apply to the menus described in the previous subsection. To avoid unnecessary repetition, these menus will not be shown. Refer to the previous subsection if you have any questions regarding any prompt; you can also use the help key (F1) for more information.

3. Convert ASCII files to dBASE III files (ASC2DB)

Using this option, your files are converted to dBASE III files. To choose this format conversion, press the ENTER key when your cursor is over this option. The menu in Figure 4-21 appears.

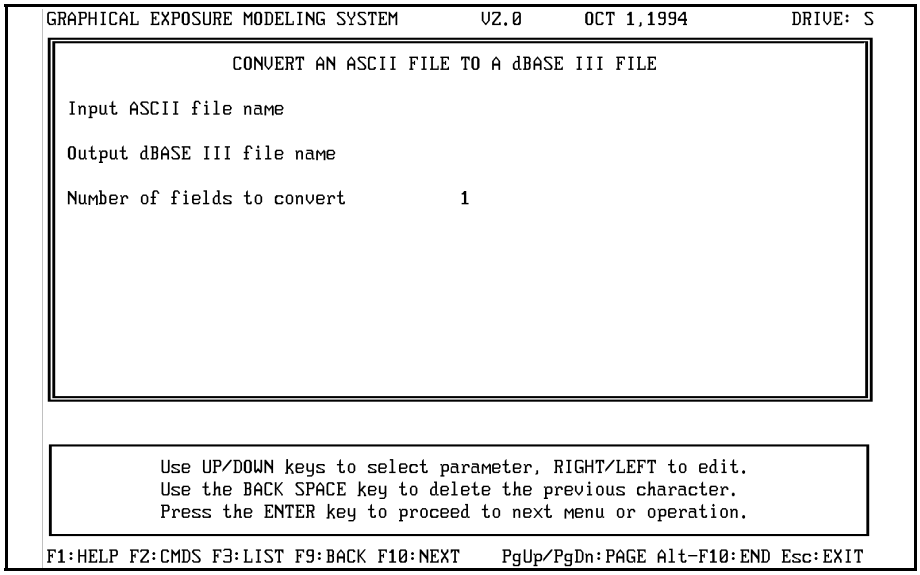


Figure 4-21. ASCII to dBASE III Conversion Menu

You must enter the name of the ASCII file and the desired name for the resulting dBASE file name. Include the required fiel extension for dBASE filenames, "DBF".

The menu in Figure 4-22 appears next.

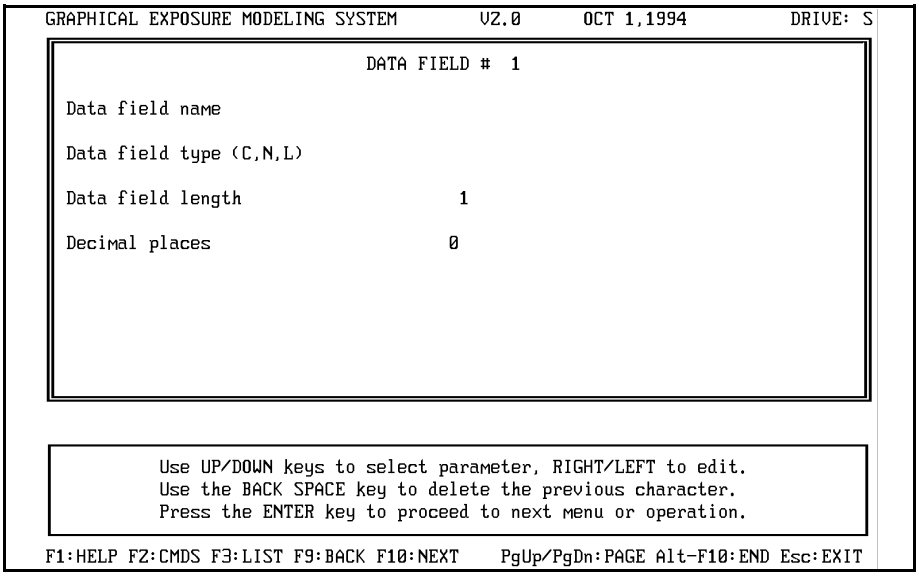


Figure 4-22. Data Field Description Menu (dBASE III)

Enter all the values required by this menu. If you are unsure about the format of the data fields in your file, end this program with the ALT/F10 command and use a data editor to review the ASCII file. (Refer to Subsection 4.4 and 4.5 for information on installing a data editor and using it to read a file.) Help messages on the meanings of the prompts are available by using the F1 function key. This menu will repeat according to the number of data fields you chose to convert. The file is converted when you have completed all the data fields, and is inserted into your default catalog.

4.7 Catalog Manager (CATMGR)

The catalog manager allows you to maintain and update a listing of all the files that are generated by the system or inserted by the user in one or more catalogs. In the course of maintaining this list in the catalog, you are allowed to delete files, update file attributes, send the output from a particular file to the printer or to the PC screen for viewing, or insert files into the catalog listing. You may also switch catalogs by entering "A" after entering the F3 function key. The list of catalog files will be shown, along with the word "NEW" in square brackets. You may select any of the

existing catalog files to be the new active catalog file, or you may select a new catalog file by selecting the "[NEW]" option and entering a catalog name. When switching catalogs, keep in mind that only those catalogs in the directory from which you invoked PCGEMS will be accessible. You may not change directories when you are in PCGEMS.

All output and input files created when you run a program will be inserted into the active catalog, i.e., the catalog file which was most recently selected. If there is no active catalog file in your directory, you will be prompted to enter a name for a catalog file. The files are then inserted into the new catalog file, which becomes the active catalog file. To change the active catalog so that files from a program go into a different catalog file, use the F3 function key and the "A" response to switch default catalog files as explained above **before** you access the particular program or before the processing actually begins.

All input and output files created by running PCGEMS programs are automatically assigned file names. The names are usually a combination of the file name, the file number and an extension indicating file function. For instance, the output files created by the PCCHEM program are CHEMXXX.DAT and CHEMXXX.OUT (XXX is replaced by a three-digit number sequentially assigned according to the number of files that have been created). The file with the ".OUT" extension is a table summary file, while the file with the ".DAT" extension is meant to be used as input for the SESOIL and EXAMS models.

Since the file extensions are a significant portion of PCGEMS naming conventions and since they convey some information about the contents of the file, the naming conventions used in the file extensions are explained below. You do not, however, have to enter the file extension when entering the file name in PCGEMS. PCGEMS will automatically attach the appropriate extension for that program or portion of the program and then check the default directory for the appropriate file. The catalog file is not a directory and does not contain the files themselves. Rather, what the catalog file contains is the filenames and the appropriate attributes attached to the file. It is there only to provide a listing of the files themselves, not the actual files, so that you can see the filenames and arrange them according to a filing category that will help you keep track of output files.

PCGEMS File Extension Naming Conventions

- Output files with the ".DAT" extension may be used as input files for other programs. An example of this is the SMIGET output file, which may be used as an input for any of the other chemical estimation programs, is given the file name SMILEXXX.DAT.

- If it is not meant to be used as an input file for other programs, the file extension for an output file is ".OUT". This means that the output file does not have the correct format to be used as an input file . Files with an ".OUT" extension are results files.

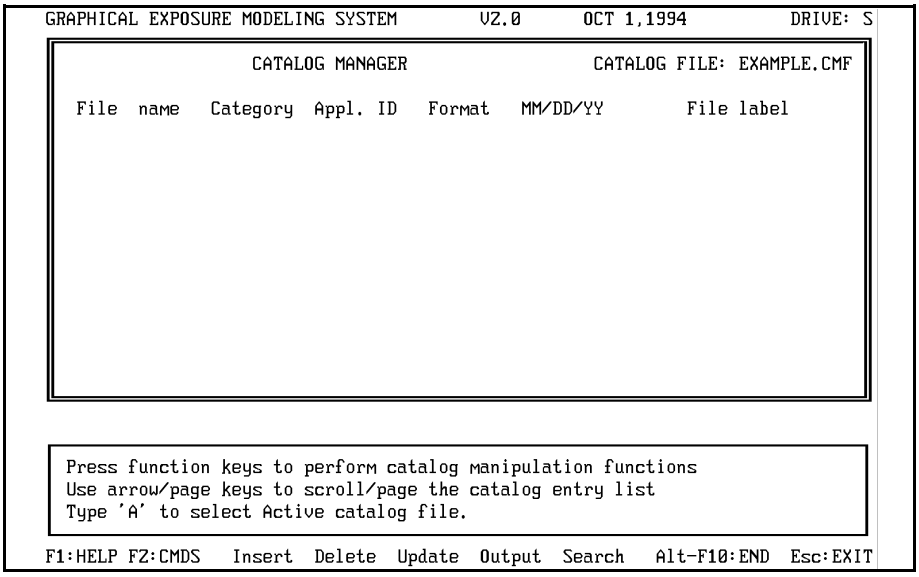
- With regard to the modeling programs, depending on the program, a variety of different input files are created. These files usually have an abbreviation of the model name in the file name. These files cannot be used as input for other modeling programs since they are model-specific. In the modeling programs, you need not enter extensions with the file name. The extension will be added by the program depending on the function of the files.

- All error files created by the estimation programs which contain the notation of those user-entered chemicals which could not be estimated by that specific program have the extension ".ERR". These files are meant only to inform you as to what chemicals could not be estimated and why.

- An ISCLT2 model output file contains the average concentration for each sector segment of the polar grid. This file is accessed by the exposure and risk estimation option in ISCLT2 and has the ".AVG" extension. Other programs such as the Census program (Subsection 4.2) assign special extensions to help identify the contents of the file further. They are specific to the program and the extensions are not explained here. Refer to the description of each model in Chapter 3 if you have any questions.

To access the catalog manager, press the ENTER key when your cursor is over the Catalog Manager Program. The menu in Figure 4-23 appears.

Figure 4-23. Catalog Manager Menu



You are sent directly to the active catalog file, which is the file into which file names were last inserted. If you wish to see the list of files stored in another catalog file, enter "A". You will see a menu listing all the catalog names, with the active catalog file highlighted. You are then prompted to select one.

You will notice in Figure 4-23, that for each catalog entry, several file attributes are given in addition to the file name. Except for file labels, these file attributes are assigned automatically by PCGEMS unless you choose to enter a foreign file using the F4 (INSERT) function key. You will have to enter the attributes for inserted files yourself. These attributes are explained in greater detail below:

CATEGORY

Data category is one of the attributes assigned to a file to better identify the contents and type of file. There are five different categories used in PCGEMS to identify the type of file:

DATA The file is either in binary or ASCII format.

GRAPH	The file contains graphics data.
MAP	The file contains geographical map data.
REPORT	The file contains text in report form.
TABLE	The file contains tabulated text.

APPL ID

APPL ID stands for application identification and refers to the name of the program that created the file or is going to access the file. If the file has been converted from ASCII format to LOTUS, dBASE, or DIF format, the APPL ID will be either "GENERAL","LOTUS" or "dBASE", depending on the program format.

FORMAT

The file format of a cataloged file is required for some PCGEMS application programs to properly access that file. The commonly used file formats include the following:

ASCII	The file contains only ASCII characters.
DBF	The file is in dBASE III DBF format.
DIF	The file is in DIF format.
WKS or WK2	The file is in the LOTUS worksheet format.
ESCAPE	The file consists of graphic escape sequences (i.e., it was created by a PCGEMS graphics program).

MM/DD/YY

This is the date when the file was inserted in this catalog file.

FILE LABEL

The file label is a 20-character attribute to a data file. It is usually used to describe the contents of a data file and is provided by the user at the end of a program run.

- *COMMAND KEYS*

  The catalog manager has its own set of command keys separate from the PCGEMS command keys shown at the bottom of the screen. These keys call up a variety of functions, such as printing and deleting files. In addition to the function keys normally used by PCGEMS (such as F1 to obtain help information and ALT/F10 to end the program), the catalog manager has a set of one-character alphabetical

commands, such as "D" for delete or "I" for insert, that may be entered from the keyboard. The command keys are explained below.

F1 This key provides introductory information on the catalog manager. To see information on specific keys, enter the F2 key.

F2 This key provides a brief description of the command keys.

I This key allows you to insert a file into the active catalog file. The only criterion for entering a file in the catalog list is that the file must be in the same directory as the catalog file. Bring your cursor to the position on the catalog list where you wish to insert the file and enter this key. A menu will appear asking you to enter the filename and attributes. The attributes are explained in detail above. Enter values for all of the prompts. You may change them later using the update function if you so desire.

D This key allows you to delete the file you have highlighted by the cursor from both the catalog file and the directory in which the file resides. Do not use this command if you copied the file from one catalog to another catalog in the same directory (if, for instance, you were reorganizing the catalog files and decided to move files from this catalog to another catalog where files similar to this file are stored), for the file entry will be deleted from that catalog also since PCGEMS automatically deletes all entries for which it cannot find the files.

If you select this command, you will see the title of the menu change from "CATALOG MANAGER" to "DELETE CATALOG FILES" indicating that you are in delete mode. To select a file for deletion, place your cursor on the file name and enter the letter "S" from your keyboard. An arrow will appear to the left of the file name, indicating that the file has been selected for deletion. (To deactivate the selection arrow, press "S" again.) You may delete as many files as you wish. When you have selected all of the files that you wish to delete, enter "D" again. You will see a new menu displaying the names of the files that you chose to delete. You will be asked to verify that you really wish to delete the files by entering "Y". Scan the list carefully

since the files will be deleted as soon as you enter "Y".

U This key function allows you to update the file attributes, such as name and application ID, of the file you have selected (highlighted at that moment by the cursor). Invoking this function brings up a menu that displays all the current file attributes. You may change any or all of the attributes. When you are done changing the attributes, press ENTER and you will be returned to the Catalog Manager Menu.

O This function allows you to send the contents of a selected file either to the PC screen or to a printer. When you enter this command, an additional screen will appear listing the output options. If you are sending the output to the PC screen, you must enter the ALT/F10 command after viewing the contents of the file in order to return to the Catalog Manager Menu. **Graphics files cannot be sent directly to the printer. They must be first output to the screen and then printed using ALT/P.**

If you select the print option, the PCGEMS menu screen will be cleared and you will see the familiar DOS print command question on the PC screen (if you have not already entered the PRINT command outside the system or selected this option previously):

```
Name of list device [PRN]:
```

This allows you to specify the output list device--LPT1, LPT2, LPT3, PRN, COM1, COM2, COM2, etc. The default is PRN and you may, in most cases, accept it by pressing ENTER. **Make sure that your printer is on-line before you select the print option.**

Once you have entered the list device, you will not see the prompt again during this session.

The contents of the file is sent to the printer, and you may return to the main catalog manager menu and enter another file to print. The file is put in the print queue. You may repeat this procedure for up to six files. If your printer is not on-line, PCGEMS will immediately return to main catalog manager

menu. The contents of the file, however, have been sent to the printer buffer and will be printed as soon as you set the printer to on-line.

S This key function will search for files in a large catalog file. It will search only the default catalog file.

ALT/F10 This command allows you to exit the catalog manager.

ESC This function key allows you to exit PCGEMS.

4.8 Run User-Installed Data Management Programs

Use this capability to access any of your own data management programs. Before being able to use such a program, however, you must install the program using the PCGEMS Utilities function. To install a non-PCGEMS data management program under PCGEMS, you must do two things:

1. Install the program using the XINSTALL function of the PCGEMS utilities. To do so, proceed to the Utilities operation and select option 1, "Install a Non-PCGEMS Program". Refer to Subsection 7.3 of Chapter 7 for more information on this program and what you should enter for this program. Keep in mind that once you have installed a program under this option, the program name and path indicating its location to PCGEMS will always be listed under this option. You cannot remove this listing. However, if PCGEMS does not find the program where you indicated it would be, the listing will be deleted automatically.

2. Install the XRUNNPC program. If you have installed the XRUNNPC program in PCGEMS, you may run your data management program. The information that you entered identifying the program when installing it will appear on the screen when you select this option if you installed your program correctly. When the cursor is over the program name, press ENTER to access this program.

Once you have carried out both steps, you may run the program by selecting "Run User-Installed Data Management Programs" at all subsequent sessions.

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